Prevalence and Framing of Health Disparities in Local Print News: Implications for Multilevel Interventions to Address Cancer Inequalities

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Prevalence and framing of health disparities in local print news: Implications for multilevel interventions to address cancer inequalities

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Abstract

Background—Americans remain under-informed about cancer and other health disparities and the social determinants of health (SDH). The news media may be contributing to this knowledge deficit, whether by discussing these issues narrowly or ignoring them altogether. Because local media are particularly important in influencing public opinion and support for public policies, this study examines the prevalence and framing of disparities/SDH in local mainstream and ethnic print news.

Methods—We conducted a multi-method content analysis of local mainstream (English-language) and ethnic (Spanish-language) print news in two lower-income cities in New England with substantial racial/ethnic minority populations. After establishing inter-coder reliability (kappa=0.63–0.88), coders reviewed the primary English- and Spanish-language newspaper in each city, identifying both disparities and non-disparities health stories published between February 2010 and January 2011.

Results—Local print news coverage of cancer and other health disparities was rare. Of 650 health stories published across four newspapers during the one-year study period, only 21 (3.2%) discussed disparities/SDH. Although some stories identified causes of and solutions for disparities, these were often framed in individual (e.g., poor dietary habits) rather than social contextual terms (e.g., lack of food availability/affordability). Cancer and other health stories routinely missed opportunities to discuss disparities/SDH.

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Conclusion—Local mainstream and ethnic media may be ideal targets for multilevel interventions designed to address cancer and other health inequalities.

Impact—By increasing media attention to and framing of health disparities, we may observe important downstream effects on public opinion and support for structural solutions to disparities, particularly at the local level.

Keywords

Media coverage; content analysis; local news; health disparities; health inequalities

Introduction

Despite efforts to raise awareness of health disparities to gain support for structural solutions, research has shown that Americans remain largely under-informed about cancer and other health disparities, as well as the social determinants of health (SDH). Nationally representative data from the 2008-2009 National Opinion Survey on Health and Health Disparities showed that although most U.S. adults were aware of health disparities along socioeconomic lines, fewer were aware of inequalities along racial/ethnic lines (1). Additionally, although respondents recognized the important influence of individual health behaviors and access to health care, they were less likely to report a strong influence of other social and economic factors on health (2). For example, they reported less awareness of the connection between education and health compared to other positive life outcomes (1).

News media could be contributing to this disparities/SDH knowledge deficit. Research has shown that news coverage prioritizes health issues for the public. By drawing attention to certain topics, the news media can influence topic salience and, in turn, public opinion (3). Moreover, the content of news media coverage—in other words, how certain topics are discussed or framed—can shape public perceptions of those health issues and support for public policies (4, 5). To illustrate, consider the case of news coverage of disparities/SDH. Systematic media content analyses have shown that disparities stories represent only 0.1% to 13.6% of all health news (6-9), with coverage trending downward from 1998 to 2005 (10), and certain topics—namely, cancer, cardiovascular disease, and HIV/AIDS—have garnered most disparities coverage (6, 10). From an agenda-setting perspective, this may suggest to readers that disparities, while not a particularly consequential health issue overall, do exist for select diseases such as cancer. Moreover, although disparities stories have featured some discussion of the influence of social determinants on health, news frames that emphasize individual-level or behavioral explanations for disparities are more prevalent, and this is true both for discussions of causes of and solutions to disparities (7, 10). Although the media's focus on behavioral causes and solutions may be productive, insofar as individual-level behaviors can produce near-term changes in health outcomes, recognizing the importance of social contextual factors is central to sustained and equitable improvements in the health of individuals and communities. Taken together, these media coverage patterns correspond to the aforementioned public opinion data (1, 2), suggesting that media coverage of disparities/SDH may be contributing to low public awareness and narrow perceptions of these issues—which, ultimately, could influence policy support for structural solutions to address disparities.

Importantly, however, most content analyses have focused on national and/or regional newspapers, including in the U.S. (7, 9, 10), United Kingdom (11), and Canada (12). To date, there has been minimal attention to disparities/SDH coverage in *local* print news. Broadly, local news refers to print, broadcast, and, increasingly, online news coverage that is locally or geographically situated, and thus is of interest primarily to local community members. Local print news, specifically, includes mainstream (or community or neighborhood) newspapers and ethnic newspapers, both of which are critically important. First, research has shown that, compared with national news, local mainstream news—which is intended for a general audience—plays a particularly central role in shaping public opinion and the local policy agenda. The local newspaper has long been a central fixture of communities, a highly valued resource that serves both a social and informational function (13). For example, local media use has been associated with greater civic involvement (14) and community participation (15), as well as greater public affairs (16) and political (17) knowledge. The absence of local print news does not go unnoticed (18, 19), and even in today's changing media environment, residents of large cities and small towns alike report that local news matters (20, 21). Communities often view local newspapers as representing their voice (22), and stories that are locally produced and situated can strengthen personal relevance and thus increase information processing (23-25). Although some data suggest that health news stories are relatively rare in local news (23, 26), there have been efforts to increase coverage—for example, by using community-based campaigns to increase health information in local media (27) and issuing localized health news releases to promote health coverage in local newspapers (28).

Second, ethnic media—which refer to "media that are produced *by* and *for* immigrants; racial, ethnic, and linguistic minorities; [and] indigenous populations living across different countries" (29, p. 6)—are important for several reasons. Similar to mainstream local media, ethnic media perform a social-control function by reinforcing community norms and downplaying community conflict to promote stability; they also perform an informational function by surveilling and disseminating relevant content to communities (30). Perhaps more importantly, ethnic media are particularly trusted and influential sources of health information, primarily because they are able to achieve both personal and community relevance through localization and other targeting strategies (24, 31, 32). Although some have questioned whether they have yet to fully realize their potential as a critical health information source (24, 33), it is important to examine disparities/SDH coverage in these sources, given their centrality to communities. To date, few studies have done so. There is some evidence that Black newspapers include more information on disparities than mainstream newspapers (31, 32), but we know little about whether and how disparities have been covered in Latino or Spanish-language newspapers, and whether there are differences in coverage between local ethnic and mainstream newspapers. Importantly, ethnic media have the potential to reduce knowledge gaps: these sources are popular among racial/ethnic minority communities, who continue to suffer a disproportionate burden of disease and who are often missed by mainstream channels for disseminating public health information (34). To the extent that such sources document disparities/SDH, they may influence public perceptions of inequalities and mobilize community members to action.

Ultimately, then, both mainstream and ethnic local print media may be ideal targets for multilevel interventions designed to address cancer and other health inequalities. If we can successfully increase media attention to and framing of disparities, then we may observe important downstream effects on public opinion and support for public policies, particularly at the local level. In an effort to achieve this goal, we present the results of a multi-method content analysis of local mainstream (English-language) and ethnic (Spanish-language) print news in two lower-income cities in New England with substantial racial/ethnic minority populations. This analysis was part of the formative evaluation for Project IMPACT, a multilevel community-based participatory research project that intervenes with community-based organizations (CBOs) and journalists to influence media coverage and public opinion about tobacco-related and other health disparities (35). Just as media content analysis can be valuable in evaluating community-based interventions (36), so, too, can it be useful in the formative stages by documenting the baseline media environment which interventions might seek to influence. In the current study, we examine the prevalence and framing of cancer and other health disparities/SDH in local print news in IMPACT's intervention and control communities. Second, given the relatively low levels of disparities coverage in mainstream national and regional news, we assess whether non-disparities local health stories missed opportunities to discuss disparities/SDH.

Materials and Methods

Parent study

Content analysis data were collected as part of Project IMPACT (“Influencing Media & Public Agenda on Cancer & Tobacco disparities”), a National Cancer Institute-funded community-based participatory research project with the goal of addressing disparities by influencing an upstream factor: the media and public agenda. Informed by communication theories about the agenda setting and framing functions of the media, and inspired by recent calls for multilevel community interventions (37), IMPACT asks whether it is possible to influence how the media cover disparities/SDH and, in turn, shape public perceptions of these issues and garner support for structural solutions to disparities. To this end, the IMPACT study team—composed of academic researchers and community partners from the intervention community—developed a model intervention for CBOs that work with underserved populations and journalists in these communities. The intervention includes a media training program, which teaches CBO staff and local media to engage with one another to advance priorities around disparities/SDH.

To evaluate the effectiveness of this upstream intervention, the IMPACT study team first conducted a baseline public agenda assessment. This involved a door-to-door public opinion survey in the intervention community to assess baseline awareness and perceptions of disparities/SDH (35), as well as a content analysis of local print media to understand how journalists have covered these issues. The content analysis was conducted in both the intervention community (City A) and a control community (City B) (see Table 1 for city comparison data; cities are anonymized since the intervention is ongoing). The current study presents the results of the content analysis in both communities.

Sampling and coding procedure

The universe of media content included four local newspapers—the primary mainstream (English-language) and ethnic (Spanish-language) newspaper in City A and City B—during the year leading up to the intervention (February 2010-January 2011). Three of the newspapers were not indexed in Lexis-Nexis or a similar database, which is not atypical for local media outlets. We therefore could not use an electronic search term approach to identify units of analysis (i.e., disparities and non-disparities health news stories). Instead, coders had to read newspaper issues cover-to-cover to identify disparities and non-disparities health content. Because the City A and City B mainstream newspapers were published daily, we used a constructed week sampling approach to select a manageable but representative number of newspaper issues for coders to read: one constructed 7-day week (which included a randomly selected Sunday, Monday, etc.) was generated per month across the 12-month period (7×12, thus N=84 issues in each community) (38, 39). In contrast, since both communities' ethnic newspapers were published weekly, we used a census approach to select newspaper issues for coding (N=52 issues in each community).

We developed three coding instruments for the study, all of which underwent pilot coding and revision prior to data collection. Different instruments were used based on the content of the health story, as depicted in Figure 1. Coders used the first quantitative instrument to identify the prevalence of disparities/SDH news stories (1 if yes, 0 if no; see Figure 1 note for definitions). If a story was coded as 1 (yes) for disparities/SDH, then coders proceeded to the second quantitative coding instrument, which was used to collect information on the content of disparities stories, including how they were framed. The first set of substantive coding variables asked about *health disparities among population groups*. For example, were disparities defined as an explicit or implicit comparison of race/ethnicity (1 if yes, 0 if no) and, if yes, which racial/ethnic groups were compared (e.g., 1 if Black/African American and White/Caucasian, 2 if Black/African American and Hispanic/Latino, etc.)? Subsequent variables asked about comparisons along socioeconomic lines, or other individual, group, or societal characteristics (e.g., gender, age, sexual orientation, geographic region). The second set of substantive variables asked about *causal explanations for disparities*. Here, coders identified the reason(s) the story offered (whether explicitly or implicitly) for why disparities exist. Four causal explanations were provided, consistent with those identified by Kim et al. (10): (1) genetic; (2) behavioral; (3) health care; and (4) societal (see Table 2 note for definitions). Alternatively, coders could identify (5) multilevel or (6) no causal explanations. The third set of substantive variables asked about *solution explanations for disparities*. Coders identified the strategies the story offered (whether explicitly or implicitly) for reducing or eliminating disparities. Four solution explanations were provided, again consistent with categories identified by Kim et al. (see Table 2 note). Similar to the causal explanations, coders could select (5) multilevel or (6) no solution explanations.

Additionally, the second instrument included several descriptive variables. Coders recorded health-related information, such as disease(s) or condition(s) discussed and lifestyle or behavior risk factor(s) discussed (see Table 3 for examples). They also recorded information about the story author and geographical area discussed (see Table 4 for examples). Although these quantitative data allow us to gauge whether the story was local, they do not necessarily

reflect localization, which has been defined as the process of including local story elements, such as local sources or statistics (24, 28).

Last, if a story was coded as 0 (no) for disparities/SDH, then coders proceeded to the third coding instrument, which was used to collect quantitative and qualitative information on non-disparities health stories. Because previous research has shown that disparities stories constitute a small percentage of health news stories (6-9, 40), it was important to understand the content of these stories and, more specifically, whether there were missed opportunities for discussing disparities/SDH. To this end, coders recorded the content of these stories using the descriptive variables included in the second instrument (e.g., disease(s) or condition(s) discussed, story author, geographical area discussed). In addition, using an open-ended item, coders were asked to specify any opportunities that the story author had to discuss disparities, their causes, or possible solutions. They also noted any local sources cited, local resources mentioned, and/or local statistics noted. To record missed opportunities, coders included key phrases in the coding instrument and circled sections of text in the newspaper hard copies.

Inter-coder reliability

To assess inter-coder reliability, we calculated kappa statistics, which adjust for chance agreement, for the nominal substantive and descriptive variables reported here (41). Landis and Koch (42) classify kappa statistics of 0.61-0.80 as “substantial” agreement, while 0.81-1.00 reflects “almost perfect” agreement.

Prior to reviewing the four City A and City B newspapers, inter-coder reliability was established using a purposive sample of disparities and non-disparities health stories from two Boston newspapers (*Boston Globe* and *Boston Herald; N*=50). Coders were aware of the overall study aims but not the expected findings. First, two English-speaking research assistants coded all articles and, using the first instrument, determined whether the stories included disparities/SDH content. The coders were highly reliable in this assessment (kappa=0.80). Next, coders reread the disparities stories they had identified, and, using the second instrument, coded story content. The mean kappa for the *health disparities among population groups* variables was 0.72. For the *causal explanations for disparities* and *solution explanations for disparities* variables, kappas were 0.64 and 0.67, respectively. The mean kappa for descriptive variables was 0.70. The same coding procedure was repeated by one of the English-speaking research assistants and a third research assistant, who was bilingual in English and Spanish. Again, coders were reliable in assessing prevalence of disparities coverage (kappa=0.88), as well as story content: the mean kappa for the *health disparities among population groups* variables was 0.70; 0.77 and 0.63 for the *causal explanations* and *solution explanations* variables, respectively; and 0.69 for the descriptive variables.

Analysis

Using IBM SPSS Statistics v.22, we calculated descriptive statistics (i.e., frequencies) to assess the prevalence and framing of disparities/SDH in local print news, and to describe the content of non-disparities health stories (e.g., health topics discussed, story author,

geographic area discussed). To assess missed opportunities, we reviewed coders' key phrases and the circled sections of newspaper hard copies, identifying exemplar stories to demonstrate how story authors could have discussed disparities/SDH. Exemplar stories were selected based on the importance of the health topic to the community—and, more specifically, whether the community has assets working to address said health issue—and whether a local writer (rather than, for example, an AP reporter) was covering the topic.

Results

Prevalence and framing of disparities/SDH in local print news

We found that cancer and other health disparities coverage was rare in both mainstream and ethnic local print media. Overall, there were 650 health stories across the four newspapers from February 2010-January 2011 (average number of stories per issue range=2-5). Of these, only 21 (3.2%) discussed disparities/SDH (Table 2), 5 (23.8%) of which discussed cancer disparities specifically (e.g., breast, colorectal). The fewest disparities stories were identified in the City A mainstream (English-language) paper (n=1), while the greatest number (n=10) was identified in the City B ethnic (Spanish-language) paper. Although some stories identified causal explanations for disparities (n=14), these were typically framed in behavioral or individual terms (e.g., poor dietary habits, n=7) rather than societal or social contextual terms (e.g., lack of food availability/affordability, n=4). Similarly, behavioral solutions (e.g., dietary behavioral interventions, n=7) were described more frequently than societal solutions (e.g., regulating the number of fast food restaurants via zoning laws, n=2). Some genetic and health care causes and solutions were reported, but again less frequently than behavioral causes and solutions.

Disparities were most often defined as an explicit or implicit comparison of race/ethnicity (n=18), although comparisons along socioeconomic lines also occurred (n=7; Table 2). In the English-language papers, the racial/ethnic groups compared most often were Black/African American versus White/Caucasian or general U.S. population; in Spanish-language papers, the most common comparison was Latinos versus non-Latinos. For the socioeconomic comparisons, poverty was the most frequent focus, while the few comparisons of other individual, group, or societal characteristics tended to focus on age-related disparities (i.e., differences between older and younger populations).

Content of non-disparities health news coverage

Across the four newspapers, most health content in non-disparities health stories discussed disease(s) or condition(s) (n=390; Table 3). Much of this coverage focused on cancer in general (n=28) or specific types of cancer (n=57). Breast (n=21) and prostate (n=10) cancer were discussed most frequently—consistent with research showing that these cancers receive substantial and, in the case of breast cancer, a disproportionate amount of news coverage relative to actual incidence (43). Other topics that garnered substantial attention included heart disease (n=27), obesity (n=29), and mental health disorders (n=30). Health news coverage was also devoted to health care access, quality, or policy issues (n=284). Most of these stories discussed health care policy and/or reform (n=163), which is not surprising given that the Affordable Care Act was signed into law in March 2010 (the

beginning of the coding period). Fewer stories discussed behavioral risk factors (*n*=76), but those that did often focused on poor diet/nutrition (*n*=30).

Some health news stories were locally produced and situated (Table 4). Nearly one-third (30.5%, *n*=198) of non-disparities health stories were written by a local staff writer or columnist, and one-quarter (25.5%, *n*=166) specifically referred to City A, City B, and/or their greater metro areas.

Missed opportunities to discuss disparities/SDH

In reviewing non-disparities health stories, coders identified instances where story authors could have discussed disparities/SDH. In fact, numerous missed opportunities were identified. Not only did many stories focus on health topics for which there are notable disparities, but in many cases reducing these disparities are a priority for CBOs in City A and City B. We illustrate such missed opportunities in Table 5, drawing on cancer-related examples identified during hand coding, and offer strategies that story authors could have used to address disparities/SDH.

Discussion

Given persistent disparities in cancer diagnoses and deaths, there is a pressing need to galvanize public support to address cancer and other health inequalities. Although local media could play an instrumental role in generating such support, the current study's results suggest that cancer and other health disparities discourse may be largely absent from local print news. During a one-year period, only 3.2% of health news stories in four local papers discussed disparities/SDH. This was true even though we concentrated on print media in two lower-income, racially/ethnically diverse cities—which, given substantial community assets dedicated to addressing disparities, might be expected to see greater media coverage of these issues. Moreover, we considered not only mainstream but also ethnic (here, Spanish-language) print media, which are particularly popular within racial/ethnic minority communities, yet disparities coverage was uniformly low across these sources. Given the scarcity of such stories, we were somewhat limited in our ability to describe the content of disparities coverage.

That said, two patterns did emerge. First, disparities were most often defined as an explicit or implicit comparison of race/ethnicity, although there were also comparisons along socioeconomic lines. Second, causes and solutions for disparities were typically framed in behavioral or individual terms, rather than societal or social contextual terms. This finding is consistent not only with the results of national and regional newspaper content analyses (7, 10), but also with the results of the IMPACT public opinion survey (see Ramanadhan et al. (35) for study details). These survey data suggest that overall awareness of disparities was higher among City A residents who reported reading local newspapers (see Supplementary Table S1), and this was particularly true for residents with lower levels of education. [1]From

[1]In a multivariate contingency table analysis not shown here, the association between local newspaper readership and awareness of disparities was significant for those respondents with a high school degree or less, χ^2 (2, *n*=611) = 6.79, *p*<.01); the association was not significant for those respondents with some college education or higher, χ^2 (2, *n*=314) = 0.67, $p \geq .05$).

a communication inequalities perspective (44), then, local news may be a promising channel for reducing gaps in awareness of disparities. However, local newspaper readership did not appear to translate into greater recognition of social contextual influences on health. Overall, SDH recognition was higher among City A residents than in national samples (2), but individual influences (e.g., personal health practices) were often rated as more important, regardless of newspaper readership (Supplementary Table S1). Thus local print news might have spurred awareness of disparities, but this coverage could have expanded that conversation to better underscore SDH.

Indeed, qualitative data from our content analysis show that there were missed opportunities for discussing both disparities and SDH in health stories. In the three exemplar cases identified by coders, story authors wrote about cancer-related topics for which there are notable disparities/SDH—exposure to environmental contaminants, tobacco, and obesity—yet there was no mention of this perspective. Additionally, although these three stories were locally generated and situated, they could have incorporated additional localization elements to increase story relevance and provide a call to action for community members (23). For instance, all three exemplar stories were written by a local journalist or columnist—across papers, this was true for nearly one-third of health stories—yet the story authors did not turn to relevant CBO staff as sources for information, nor did they emphasize local community resources to promote health and reduce disparities. When local statistics were cited (e.g., in the third exemplar story, the high rate of obesity in City A), they were not contextualized to underscore disparities across neighborhoods and communities.

Implications for multilevel interventions

Ultimately, the absence of disparities coverage has important implications, as agenda-setting research has shown that news coverage can influence public opinion and support for public policies, and this is particularly true at the local level. In fact, agenda-setting effects can occur at multiple levels, influencing individuals, community organizations, journalists, and policymakers, to name a few. As a multilevel communication-focused intervention, Project IMPACT seeks such influence. Specifically, IMPACT trains CBO staff and local media to engage with one another to advance priorities around disparities/SDH. If the intervention is able to increase disparities discourse in the media, we may see an impact at multiple levels: greater public understanding of disparities/SDH at the individual level, increased interpersonal conversation about disparities/SDH, stronger collaboration between CBOs and local journalists to advance a disparities/SDH agenda, and more policies proposed to address disparities/SDH.

Limitations

Several limitations should be considered in interpreting the results of this study. First, this analysis is confined to two lower-income, racially/ethnically diverse New England cities. Analyses of local mainstream and ethnic media in other cities might reveal different patterns of disparities and non-disparities health coverage; so, too, might analyses of local broadcast or online news. Second, coverage patterns could have changed since 2010-2011, although recent research suggests that media coverage of disparities remains infrequent (45). Third, although City B was selected as a control because of its regional proximity to City A, its

similar size and demographic makeup, and full-print availability of mainstream and ethnic papers—a rarity, as more and more communities dispose of their hard copy newspapers (46)—it is not a perfectly matched control. Fourth, given the scope of the content analysis and concerns about coder burden, we were unable to record additional information about health content in non-disparities stories (e.g., Did cancer coverage focus more on prevention or treatment?). Fifth, for non-disparities health stories we quantitatively recorded information about local story generation and situation; additional localization information, such as use of local sources and statistics, was only recorded qualitatively in the missed opportunities analysis. Future research should pay greater attention to the localization elements given their importance in increasing story relevance and mobilizing communities to action. Last, even if greater disparities/SDH coverage is included in local print news—indeed, some journalists have worried about the palatability of such content (47)—there may be other barriers to generating support for structural solutions to disparities. For example, studies have found of evidence of public resistance to disparities messages, particularly along political ideological lines (48). Additional communication interventions may be necessary to garner public support for disparities-reducing policies (49).

Conclusion

Producing localized content can be challenging for a local media organization's budget (28), and thus researchers have called for national subsidies to support such coverage for critical topics like health promotion (47, 50). Until such time as subsidies are available, CBOs and local journalists must work together to advance the health of their communities by integrating disparities/SDH content into routine health coverage. Greater disparities coverage and discourse may, in turn, bolster larger communication campaigns designed to raise public awareness of disparities, and such campaigns themselves could earn media coverage (27). By shifting the local media and public agenda around disparities, we may successfully influence public perceptions of cancer and other health inequalities, catalyze community-level action, and, ultimately, yield policies that measurably improve the health of vulnerable populations.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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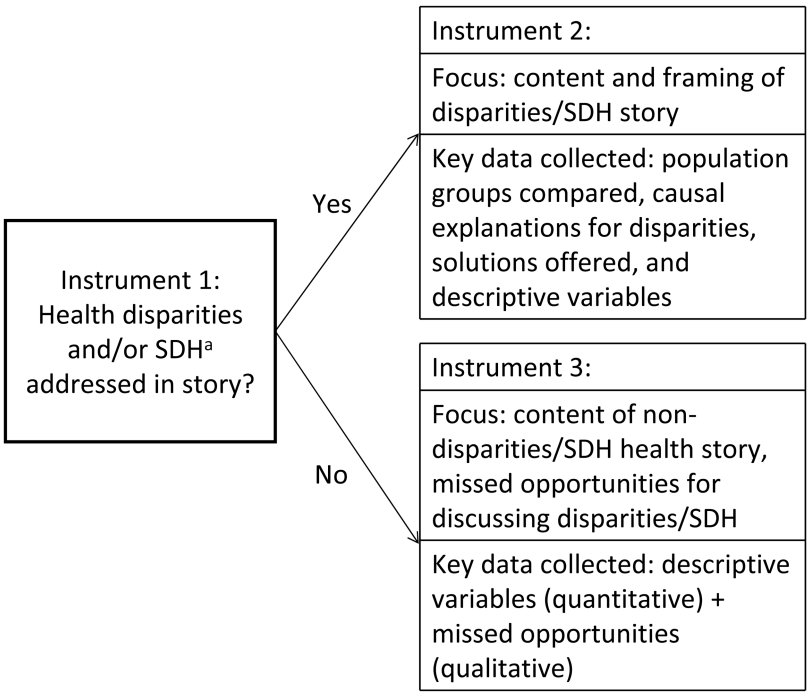

Figure 1. Coding procedure for content analysis

[a] Health disparities were defined as "differences in health status across population groups, whether defined by race or ethnicity, gender, social class, geographic location, or sexual orientation" (52, p. 101). Extensive coding guidelines elaborated on this definition. For example, differences in health status could include variations in the "incidence, prevalence, mortality, [or] burden of disease and other adverse health conditions" (originally defined by NIH working group on health disparities in 1999), as well as differences in disease prevention, detection, diagnosis, treatment, and survivorship across population groups (cancer disparities are identified in NCI's cancer control continuum as a cross-cutting concern). In addition, the coding instrument described the injustice inherent in disparities (e.g., "differences which are unnecessary and unavoidable but, in addition, are also considered unfair and unjust," (53, p. 219), as well as the social determinants that underlie disparities (e.g., not only differences in health status, but also differences "in the determinants of health that could be shaped by policies," (54, p. 1). SDH were defined using language from the World Health Organization—"the conditions in which people are born, grow, live, work, and age, including the health system" (55, p. 1)—and examples were provided (e.g., housing, neighborhood conditions, employment). After defining disparities and SDH, the coding instrument detailed keywords and clauses that may cue relevance (e.g., comparisons/superlatives such as "hit hardest," "die at a higher rate than"), and included excerpts from actual stories to illustrate relevant disparities and/or SDH content.

Table 1
City A (intervention) and City B (control) descriptive data

Statistic	City A	City B
Population size, 2010 estimate	76,377	178,042
Race, 2010		
Non-Hispanic White	42.8%	49.8%
Non-Hispanic Black/African-American	7.6%	16.0%
American Indian/Alaskan Native	1.3%	1.4%
Asian	2.5%	6.4%
Native Hawaiian/Other Pacific Islander	0.1%	0.1%
Two or more races	6.5%	6.5%
Ethnicity, 2010		
Hispanic/Latino	73.8%	38.1%
Non-Hispanic White	20.5%	37.6%
Foreign-born persons, 2009-2013	37.6%	30.0%
% below poverty level, 2009-2013	29.2%	29.0%
Median household income, 2009-2013	$32,851	$37,632
% Low birthweight (less than 2500 grams), 2010 (City A) and 2009-2013 (City B)	7.0%	8.8%

Table 2

Prevalence and framing of health disparities/SDH stories

	City A, mainstream paper *n*[a]	City A, ethnic paper *n*[a]	City B, mainstream paper *n*[a]	City B, ethnic paper *n*[a]	Total across papers *N*[a]
No. of health disparities stories	**1**	**4**	**6**	**10**	**21**
No. of non-disparities health stories	**130**	**36**	**425**	**59**	**650**
Disparities cause specified[b,c]	**0**	**2**	**5**	**7**	**14**
Framed in genetic terms	--	0	1	0	1
Framed in behavioral individual) terms	--	1	1	5	7
Framed in health care terms	--	1	1	0	2
Framed in societal (social contextual) terms	--	0	2	2	4
Disparities solution specified[b,d]	**0**	**2**	**3**	**6**	**11**
Framed in genetic terms	--	0	0	0	0
Framed in behavioral (individual) terms	--	1	1	5	7
Framed in health care terms	--	1	1	1	3
Framed in societal (social contextual) terms	--	0	1	1	2
Health disparities defined as comparison of specific groups[b]	**1**	**3**	**6**	**10**	**20**
Comparison of race/ethnicity	1	3	5	9	18
Comparison of socioeconomic status or position	0	0	2	5	7
Comparison of other individual, group, or societal characteristic (e.g., gender, age, sexual orientation, geographic region)	1	0	1	2	4

[a] *n* refers to the number of news stories.

[b] Coders could identify more than one causal or solution explanation in a single news story. Similarly, they could identify more than one disparities comparison in a single news story. Coders could also identify no causal explanations, solution explanations, or comparison of specific groups in a single news story.

[c] Genetic cause = group differences in genetic makeup; behavioral cause = group differences in knowledge, attitudes, behaviors, or cultural norms; health care cause = group differences in access to health care or differences in the quality of health care received; societal cause = group differences in social, physical, or environmental conditions. Coders who selected one of these four causal explanations responded to a corresponding follow-up question that asked which particular genetic, behavioral, health care, or societal cause(s) was mentioned (e.g., for behavioral causes: (1) sedentary lifestyle; (2) poor diet/nutrition; (3) failure to quit smoking/tobacco use, etc.).

[d] Genetic solution = targeted genetic testing or pharmacotherapy; behavioral solution = culturally tailored behavioral interventions, educational programs, or media interventions; health care solution = increasing health insurance access, coverage, or quality; societal solution = redistributive policies to improve social, physical, or environmental conditions. Coders who selected one of these four solution explanations responded to a follow-up question asking about which particular solution(s) was mentioned (e.g., for behavioral solutions: (1) physical activity interventions; (2) dietary interventions; (3) smoking cessation interventions, etc.).

Table 3

Health content in non-disparities health stories

	City A, mainstream paper *n*=130[a]	City A, ethnic paper *n*=36[a]	City B, mainstream paper *n*=425[a]	City B, ethnic paper *n*=59[a]	Total across papers *N*=650[a]
No. of stories discussing disease/condition[b]	**52**	**22**	**282**	**34**	**390**
Breast cancer	5	4	9	3	21
Prostate cancer	2	2	5	1	10
Lung cancer	1	0	2	1	4
Colon cancer	0	0	1	0	1
Cancer (other)	3	0	15[g]	3	21
Cancer (general, not specified)	10	4	12	2	28
Heart disease	3	4	18	2	27
Stroke	0	0	7	0	7
Hypertension	0	1	5	1	7
Diabetes (Type 2)	1	6	7	1	15
Obesity[c]	5	3	18	3	29
Chronic lower respiratory disease[d]	0	2	4	1	7
Influenza or pneumonia	7	1	7	1	16
HIV/AIDS	0	1	10	2	13
Mental health disorders	3	2	24	1	30
Other	17[e]	6	186[h]	18[k]	227
No. of stories discussing behavioral risk factor[b]	**13**	**11**	**36**	**16**	**76**
Smoking/tobacco use	5	6	8	3	22
Poor diet/nutrition	6	4	12	8	30
Overweight/obesity	0	4	5	4	13
Lack of physical ctivity/exercise	2	3	4	4	13
Lack of sleep	0	0	1	1	2
Other	3	0	15[i]	1	19
No. of stories discussing health care access, quality, or policy[b]	**73**	**15**	**166**	**30**	**284**
Access to health insurance	1	6	9	1	17

	City A, mainstream paper *n*=130[a]	City A, ethnic paper *n*=36[a]	City B, mainstream paper *n*=425[a]	City B, ethnic paper *n*=59[a]	Total across papers *N*=650[a]
Access to health care ervices	0	5	11	8	24
Quality of medical care and/or care providers	0	3	34	3	40
Health care policy and/or eform	47	5	91	20	163
Other	25[f]	0	33[j]	1	59

[a] *n* refers to the number of news stories.

[b] A single story could discuss a disease(s)/condition(s), risk factor(s), and/or a health care issue(s). Coders could record up to four diseases/conditions, risk factors, and health care issues per article.

[c] Obesity could be coded as a disease/condition and/or behavioral risk factor, depending on context.

[d] Includes chronic bronchitis, emphysema, and asthma.

[e] For City A mainstream paper, most common “other” diseases/conditions mentioned include kidney disease, vector-borne diseases (e.g., West Nile, Lyme), cystic fibrosis, digestive disorders (e.g., Crohn's), and injuries (e.g., concussion).

[f] For City A mainstream paper, most common “other” health care access, quality, or policy issue mentioned was the costs associated with health care (e.g., increasing cost of medical treatment, higher insurance premiums).

[g] For City B mainstream paper, most common “other” cancers mentioned include leukemia, lymphoma, melanoma, and other skin cancers.

[h] For City B mainstream paper, most common “other” diseases/conditions mentioned include Alzheimer's disease, bone diseases (e.g., osteoporosis), autism and Asperger syndrome, vector-borne diseases (e.g., West Nile, Lyme), digestive disorders (e.g., Crohn's), and injuries (e.g., concussion).

[i] For City B mainstream paper, most common “other” behavioral risk factor mentioned was alcohol or drug abuse.

[j] For City B mainstream paper, most common “other” health care access, quality, or policy issue mentioned was the costs associated with health care (e.g., increasing cost of medical treatment, higher insurance premiums).

[k] For City B ethnic paper, most common “other” diseases/conditions mentioned include infectious diseases (e.g., cholera), autoimmune diseases (e.g., lupus), and teen pregnancy.

Table 4

Non-disparities health stories that were locally produced and/or situated

	City A, mainstream paper *n*=130[a]	City A, ethnic paper *n*=36[a]	City B, mainstream paper *n*=425[a]	City B, ethnic paper *n*=59[a]	Total across papers *N*=650[a]
Written by local staff writer or columnist	30	21	121	26	198
Specific reference to City A or City B	4	20	32	20	76
Specific reference to greater City A or City B metro	17	3	70	0	90

[a] *n* refers to the number of news stories.

Table 5
Missed opportunities for discussing health disparities/SDH: Three case exemplars

Newspaper, date	Story synopsis	Missed opportunities	Potential strategies to address disparities/SDH
City B mainstream paper, June 2010	• Describes an April 2010 report from President's Cancer Panel on potential for environmental contaminants to cause cancer • Report suggests that percentage of cancers caused by environmental exposures has been vastly underestimated, and raises concerns about number of chemicals entering market each year without any safety testing requirement	• Although report underscores fact that disadvantaged populations are at greater risk of exposure, story makes no mention of disparities – Disadvantaged populations more likely to work in occupations with greater levels of exposure to environmental contaminants (e.g., mining, construction, manufacturing, certain service sector occupations) (51) – Disadvantaged populations also more likely to live in areas with greater contamination (e.g., “Cancer Alley” in Louisiana and Mississippi, with high concentrations of both chemical plants/oil refineries and poor populations with limited health care access) (51)	• Story author could have mentioned disproportionate exposure risks, given that substantial populations in City B work in such occupations • Local CBOs in City B are working to reduce environmental toxics in their communities, and thus could have served as important sources for story
City A ethnic paper, April 2010	• Describes community's participation in “Kick Butts Day,” an initiative sponsored by Campaign for Tobacco-Free Kids that encourages youth to speak out against tobacco use (a leading cause of cancer and cancer deaths) • During local event, students learned about tobacco industry and its attempt to market to youth	• Story discusses youth tobacco consumption rates in the state, as well as industry marketing practices designed to attract youth (e.g., flavorings in tobacco products), but no mention of tobacco marketing practices and tobacco availability in lower-income and racial/ethnic minority neighborhoods, such as City A	• Staff from local CBO committed to preventing tobacco use and supporting cessation could have contributed a tobacco-related disparities perspective – How industry has targeted youth from racial/ethnic minority and lower-income backgrounds – How such predatory practices can be curtailed (e.g., prevent sale of loosies, or single cigarettes and cigarillos, to youth in local bodegas)
City A mainstream paper, October 2010	• Describes local city resident's experience on NBC's reality show *The Biggest Loser*	• Story mentions that 48% of children and adults in City A are considered obese, but data point is not contextualized – City A's obesity rate contrasts sharply with	• Story author could have described genetic, health care, and/or societal causal and solution explanations for obesity disparities

Newspaper, date	Story synopsis	Missed opportunities	Potential strategies to address disparities/SDH
	• Resident, who lost over 70 pounds, is interviewed about lifestyle changes she has made (e.g., tracking calories, taking cardio boxing classes)	average obesity rate for the state: 23.6% – Difference is consistent with known disparities across population subgroups; Latinos in the state are 40% more likely to be obese than White adults, and City A is over 70% Latino (see Table 1) • No mention of the fact that lifestyle behaviors, although important, are only one factor that contributes to obesity, and they are only one solution	– Also could have underscored that obesity is risk factor for cancer occurrence and recurrence, among other diseases • In so doing, could have interviewed local CBO staff member whose organization is using multilevel strategies to combat obesity in City A